Developing parent involvement in a school-based child obesity prevention intervention: a qualitative study and process evaluation

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ABSTRACT

Background Little is known about the effectiveness of parent involvement in school-based obesity prevention interventions.

Methods A qualitative study with parents of children aged 9–10 years was conducted to identify possible methods to involve them in a school-based obesity prevention intervention, followed by a process evaluation of homework and school newsletters to involve parents.

Results Qualitative study: parents supported the use of homework and school newsletters to involve them and overcome the main barriers of their work and time. Process evaluation: Ten homeworks and inserts for the school newsletter about the obesity prevention intervention were developed and delivered. The majority of homeworks were given out (73%), completed by children (84%) and recalled by parents (60–68%). The majority of homeworks were enjoyed by parents and children. All the schools put information about the project in the newsletter and this was recalled by parents. Most parents felt the homeworks were a practical way of involving them.

Conclusions Homeworks are routinely given to children and provide a means of engaging potentially all parents if parental support is required. Homeworks which are novel, fun and involve activities and social contact are enjoyed by parents and children and may increase awareness of healthy diet and physical activity.

Keywords children, health promotion, obesity

Background

Parents, families, the home environment and school are important influences on children’s eating and physical activity behaviours.¹ Parent involvement in obesity prevention is important because 80% of children with two obese parents will develop obesity.²

There are a large number of randomized controlled trials (RCTs) of school-based interventions to prevent obesity in children with increasing evidence from meta-analyses that these are effective.³,⁴ Planet Health⁵ and Eat Well Keep Moving⁶ are two American interventions that are effective in preventing obesity in girls. The intervention combines 16 lessons on healthy eating, increasing physical activity and reducing TV viewing. We have adapted this intervention for use with 9-year-olds in the UK, called ‘Active For Life Year 5’ (AFLY5) and completed a pilot cluster RCT.⁷,⁸ During the process evaluation of the RCT, teachers suggested that the intervention might be more effective if parents were involved.⁷ However, it was unclear whether involving parents is feasible and would further improve the effectiveness. The aim of this study was to explore parents’ views of methods to involve them in AFLY5. Thereafter we undertook a process evaluation of their suggested methods of
using homeworks and newsletters. The aim was to identify a feasible way of involving parents in AFLY5.

**Methods**

The study had two phases (see Fig. 1). First, in 2008, a qualitative study was conducted with parents of children aged 9–10 years, to identify acceptable methods of involving parents in the AFLY5 intervention. This phase is hereafter referred to as the ‘Qualitative study’. In response to the findings from the phase one qualitative study, 10 homeworks were developed. The aim was to involve parents and reinforce the behaviour changes taught in AFLY5 at home (see Table 1). The homeworks related to the literacy, maths, physical education, citizenship, personal, social and health education subject areas of the National Curriculum for Key Stage 2 in England. The homeworks were developed specifically for AFLY5 by the research team and two local teachers who worked for the Healthy Schools Programme. The development of the homeworks was informed by: the lesson themes and aims for behaviour change; the views expressed by parents in the qualitative

<table>
<thead>
<tr>
<th>Title of homework</th>
<th>Brief description of homework</th>
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<tbody>
<tr>
<td>Fit Check 1</td>
<td>Goal setting: increasing activity and reducing TV. Scavenger hunt list included as suggestion.</td>
</tr>
<tr>
<td>Balance of good health</td>
<td><strong>Cooking at home</strong>: two recipes</td>
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<tr>
<td>Five food groups</td>
<td><strong>Blank eat well plate</strong>: all food eaten in 1 day by food group</td>
</tr>
<tr>
<td>Keeping the balance</td>
<td><strong>Bingo challenge card</strong>: choice of 10 activities to do out of 40</td>
</tr>
<tr>
<td>Freeze my TV</td>
<td><strong>Freeze My TV</strong>: leaflet for parent and Family Freeze My TV chart</td>
</tr>
<tr>
<td>Snack attack</td>
<td><strong>Snack worksheet</strong>: comparing food content of two snacks at home</td>
</tr>
<tr>
<td>Bowling for snacks</td>
<td><strong>Top Grub cards</strong>: playing ‘Top Trumps’ game about content of food</td>
</tr>
<tr>
<td>Think about your drink</td>
<td><strong>Sugar in drinks</strong>: instructions for calculating and measuring sugar in drinks at home</td>
</tr>
<tr>
<td>Veggiemania</td>
<td><strong>Five a day</strong>: weekly planning sheet for eating five fruits and vegetables and chart to record what was eaten</td>
</tr>
<tr>
<td>Brilliant breakfast</td>
<td><strong>Breakfast chart</strong>: weekly record of what was eaten and drunk at breakfast and colouring in food groups</td>
</tr>
</tbody>
</table>
study about activities which are enjoyed by children and are practical for all children to undertake; teachers’ experiences of activities enjoyed by children aged 9–10; activities which require parent involvement or supervision to increase parent engagement. In addition, text and graphics about the project were created for schools to include in the school newsletters. An example of one of the homeworks is included in the Supplementary data.

Secondly, in 2009, a process evaluation of the implementation of the methods developed in phase two was conducted to determine feasibility and acceptability. This second phase used focus groups with children and interviews with parents and teachers. In addition, a questionnaire was sent to parents. The second phase will hereafter be referred to as the ‘process evaluation’.

Recruitment of schools
The two phases presented here were part of a larger before and after pilot study of the AFLY5 intervention. State primary schools in South Gloucestershire were recruited to take part in the study. Private schools and special schools were excluded. Sixteen schools (59.2%) with 523 children agreed to be in the broader study and four schools (150 children) were purposively selected to take part in the qualitative and process evaluation studies. The purposive selection identified schools with a balance of rural or urban, school deprivation score and number of children in the class.

Qualitative study methods
Parents with children aged 9–10 were invited by letter to take part in a telephone interview lasting up to 30 min. Reminder letters were sent two weeks later. Interviews were conducted over the telephone during the day or evening. A semi-structured interview schedule was created, informed by literature on the methods to involve parents. The interview explored methods of parental involvement in interventions to increase children’s physical activity, decrease sedentary behaviour and promote healthy eating.

Process evaluation methods
For the qualitative aspects of the process evaluation, parents were sent letters inviting them to provide consent for their child to take part in a focus group. The aim was to recruit approximately six children per school. The children were asked to give assent on the day of data collection. The focus groups were held at the school without school staff present.

The focus groups aimed to find out what the children thought about the AFLY5 homeworks. A semi-structured set of questions were used to find out whether the children’s parents were involved, including what facilitated or was a barrier to parent involvement. To aid the discussion about each homework, the children were each given a set of six smiley faces to show how they felt about the homework and to explain why.

Parents of all Year 5 children in the four schools were sent letters inviting them to take part in a telephone interview about the methods of parent involvement. Similar methods to those of the qualitative study were used. A questionnaire was also sent home to these parents, via the children, with a pre-paid envelope. The teachers of this year group in the four schools were invited to take part in a face-to-face interview about the intervention and parent involvement. Semi-structured interview schedules were created for the interviews with teachers and parents.

Data collection methods
See Supplementary data, Table S1 for examples of questions from each method of data collection. The details of the two phases are shown in Fig. 1. The interviews and focus groups were conducted by R.R.K. with assistance from a research assistant who took hand-written notes. The interviews and focus groups were recorded on an Olympus digital voice recorder DS-2300 with an attached conference microphone, model CM9090S. Recordings were transcribed and anonymized by an administrator and the transcripts were analysed by R.R.K.

Data analysis methods
The transcripts were read to aid familiarization. Thematic analysis was used to identify the main themes. Transcripts were coded electronically using main codes and sub-codes in Nvivo (version 9.0). The codes were derived from the data informed by the research questions because of the emergent nature of the data and the limited literature in this area. The coding of a sample of transcripts was checked by a second researcher; differences of coding were discussed and agreed. The coded text was retrieved and further categories were assigned. The hierarchy of coding was main code, sub-code and category. The framework method was used to chart the categories. The data were summarized for the purpose of charting. The categories were synthesized further into classes and summarized with illustrative quotes.

Data from the questionnaire were analysed using Stata for quantitative answers and Nvivo for the free text answers.
Counts and percentages were calculated for the quantitative answers and the free text data were analysed as outlined above.

Ethical approval was given by the University of Bristol’s Faculty of Medicine and Dentistry Committee for Ethics (070820).

**Results**

The number and percentage of parents, children and teachers taking part in the two phases of the study are shown in Fig. 1 and in Supplementary data.

**Qualitative study: current school parental involvement**

All the parents reported being involved via newsletters, parents’ evening and the opportunity to see the headteacher. Just over half (5/9) reported being invited to festival assemblies. Seven parents gave their view about the current level of parent involvement in the school and all felt it was ‘about right’. The most common barrier to involvement was work. Additional restrictions were space at school and having younger children still at home.

‘I would like to but it’s more kind of really my own restrictions, not the school’s, which hold me back from kind of joining in anything.’ (School 34, Parent 1)

**Qualitative study: methods to involve parents**

All parents said the child was given weekly homework. Most parents usually or sometimes did the homework with their child, but they noted that not all parents get involved.

‘I find that my son likes a lot of interaction over his homework, even though he’s perfectly clever enough to do it by himself, it is something he likes to talk about.’ (School 33, Parent 1)

Most responded very positively to giving children homework related to AFLY5 that would require parents and children to do activities, such as cooking or being physically active, together. However, some thought that a minority of parents might not get involved.

‘Getting the whole family involved to do stuff together I think it’s a good thing, you know if they can come up with ideas or something, maybe do walks or treasure hunt type things.’ (School 34, Parent 2)

Parents felt events at school were less likely to work because many parents work.

‘I’m kind of one of the lucky few who works from home so I can be a bit flexible about going into school, but I know a lot of mums just can’t and they would feel like their child’s being penalised.’ (School 34, Parent 1)

Workshops for parents met a very mixed reaction with some parents feeling that they would be interested and others that they definitely would not. There was some positive response to early evening events for families.

‘A workshop, I don’t know, it could be a maybe a step too far... You could sign up for these things and then in three months time when it actually comes to it, you think, “oh I’ve been at work all day”.’ (School 34, Parent 1)

A newsletter as a means of communicating with parents about the project was positively received by all parents except one parent who felt that she did not need additional information. Parents felt that information within the existing school newsletter was preferable.

‘I think that the problem you might have is that people will just think oh it’s a healthy thing and putting it away, rather than, with the [school] newsletter I will read it from start to finish.’ (School 34, Parent 1)

**Process evaluation**

Table 2 summarizes the results from the process evaluation, integrating the findings from teachers, children and parents.

**Process evaluation: homework**

Children reported receiving 73% of the homeworks and parents recalled 60–68% of them. An average of 84% of homeworks given out were completed. The children’s responses to each of the 10 homeworks using the smiley faces is shown in Fig. 2. Of those completed, 51.4% were ‘loved or liked’ and 32.9% were ‘hated or disliked’. The most popular homeworks were cooking and the scavenger hunt. The least popular homeworks were Freeze My TV and the five-a-day chart. These findings were reinforced in the focus groups with children and interviews with parents and teachers.

‘We’ve always had a problem with homework with the children but actually high percentages did come back because the presentation’s different.’ (Female teacher, School 34)

Children reported that more homeworks were enjoyed than were not enjoyed and this view was supported by parents. Teachers, children and parents agreed that the popular homeworks involved activities other than writing or reading.
involved social contact, playing outside, demonstrated learning or equipped them for later life.

‘It’s really fun because like you’re doing exercise but you’re doing it in a fun way because while you’re out looking for things you’re like walking about and running and exercising and it’s even more fun.’

(Girl 6, School 37)

‘I liked it because well I never have the chance to cook with my mum.’

(Girl 6, Group 1, School 33)

‘The measuring of the sugar was an absolute hit and that made a dramatic impression on them that measuring the sugar for the drinks. A lot of them said they’ve changed what they are drinking.’

(Female teacher, School 33)

In the interviews with parents, the majority were positive about the homeworks, whilst one felt that children dislike homeworks even if the activities are fun.

‘Children just hate doing anything in the way of homework even if it you know it’s something that we, you and I, might consider enjoyable.’

(Mother 1, School 33)

The children who did not like particular homeworks reported that they did not enjoy activities such as worksheets, writing, colouring, cooking healthy food, eating fruits and vegetables, being physically active or restricting TV viewing. Other reasons for not liking the homeworks were if the family were unsupportive, the children did not understand what to do or found it difficult to make changes.

‘I don’t like making healthy things . . . But I like to make like cakes or flapjacks and stuff like that.’

(Girl 3, School 37)

‘Well because none of my parents or my sister didn’t want to do it.’

(Girl 6, Group 1, School 33)

**Process evaluation: parent involvement**

All the teachers reported including information about the project in the school newsletter and all the parents remembered reading about it in the newsletter. Teachers felt that some parents were engaged and a few were disengaged.

‘I think it’s probably a few out there that really weren’t bothered about it at all and other ones that really thought, “yeah this is a good idea let’s get involved with it.”’

(Male teacher, School 38)

Children reported enjoying homeworks where they did activities with their parents. Others said that they could not do the homework because of lack of parent support.

‘My mum, like, sleeps in all day then at night she goes to work and my dad gets home at half past five . . . my dad’s like busy doing something else and I never like get a chance to go out and stuff like that.’

(Girl 7, School 37)

Most parents felt homeworks were a practical way of involving parents.

‘Brilliant brilliant. Cos sometimes it’s hard to get in contact with parents and if the child is doing the homework it’s part of you know a regular day to day thing isn’t it.’

(Mother 2, School 33)
Process evaluation: behaviour change

Many children gave examples of changes to their diet, particularly increased fruits and vegetables, less sugary food and eating in moderation.

‘It’s changed like sometimes when, when you get home from school you just have like a little packet of crisps but now like I have a banana or something like that to keep me going.’

(Girl 8, School 37)

Parents felt the children’s awareness had increased but, in questionnaire responses, only 7 (29%) reported that their child had made changes to their diet. Parents generally felt their child’s diet was healthy.

‘He did start looking at labels . . . cos he said he could eat three bowls of cereal for one of the biscuits.’

(Mother 1, School 34)

A minority of children resisted making changes or felt change was not needed.

‘No because I like my chocolate cake . . . And chocolate biscuits every morning.’

(Boy 2, Group 2, School 34)

‘Because I couldn’t eat chocolate I eat more now cos I didn’t eat when I was doing the project.’

(Girl 4, School 38)

Many children and parents felt that the children were already active and did not watch a lot of TV, therefore changes were not needed (n = 5).

‘No cos he’s already always on the go. There’s not a moment goes by when he’s not doing something . . .’

(Mother 2, School 33)

Some examples of increased active play and travel were given by children, with some of the changes supported by the parents. Seventeen per cent of parents reported their child making physical activity changes.

‘It has made a change because my mum usually says that we’re going out for a walk or something instead of

Table 2 Summary of process evaluation data from child focus groups, parent interviews and questionnaires, and teacher interviews and questionnaires

<table>
<thead>
<tr>
<th>Theme</th>
<th>Summary</th>
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<tr>
<td>Homework</td>
<td>Teachers said most of the homework had been given out; children reported receiving 73% of the homeworks and parents recalled 60–68% of the homeworks. Teachers said not all homeworks were completed; children reported completing the majority of homeworks, with an average of 84% of homeworks which were given out being completed. Children and parents reported that more homeworks were enjoyed than were not enjoyed. Teachers, children and parents agreed that the popular homeworks were activity based. In addition, children reported enjoying homeworks which were novel or involved social contact. Children reported not completing homeworks if they were difficult, lacked adult support, they were busy, ill or away. Time was reported to be a pressure by some children and parents. Teachers also said that they felt initial enthusiasm waned.</td>
</tr>
<tr>
<td>Parent involvement</td>
<td>All the teachers reported including information about the project in the school newsletter and all the parents remembered reading about it in the newsletter. Teachers felt that some parents were engaged, a few were disengaged and many were not particularly engaged in the project. Children reported enjoying homeworks where they did activities with their parents. Most parents felt the homeworks were a practical way of involving parents in the project because homework is a routine activity. Parents suggested additional methods of involving parents to be email, recipe book, or meetings with parents. Teachers also felt meetings with parents or workshops at schools would be appropriate.</td>
</tr>
<tr>
<td>Behaviour change</td>
<td>Many children gave examples of changes to their diet, particularly increased fruits and vegetables, less sugary food and eating in moderation. Examples were also given of changes at home. A minority of children resisted making changes or felt change was not needed. Parents reported fewer changes to diet (29% of parents responding to questionnaire) but parents felt the children’s awareness had increased. Some teachers felt the children had made changes to diet. Many children and parents felt that the children were already active and did not watch a lot of TV, therefore changes were not needed. Some examples of increased active play, active travel or switching from screen use to active play were given by children. Only 17% of parents reported their child making physical activity changes. All teachers felt the Fit Check journal had helped or may have helped the children to make changes to activity levels and majority of teachers felt the same for the Freeze My TV journal.</td>
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</table>
watching telly.’

(Girl 2, Group 1, School 34)

Discussion
Main findings
The qualitative study found that the school newsletter and homeworks that included activities such as cooking and physical activity were regarded as good methods of involving parents. The process evaluation tested the feasibility and acceptability of these approaches. It showed that homeworks are a feasible way of involving parents, and the majority of homeworks were sent out, completed and enjoyed. Homeworks that were similar to traditional homework were least enjoyed and children did not complete or enjoy homeworks when they found them too hard or could not get parental support. The degree of parent involvement varied, but homework appears to be an effective way of involving parents. The number of homeworks which are appropriate for a public health intervention depends on the length of the intervention. For this intervention, delivered over an academic year, 10 homeworks were manageable for most schools to incorporate and as there is likely to be some non-adherence by both teachers and pupils, it increases the likelihood that a reasonable number of homeworks will be completed.

What is already known on this topic
Homeworks are used by schools for a range of purposes, which include practice, preparation, participation, personal development, parent–child relations, parent–teacher communications, peer interactions, policy, public relations and punishment. The use of homework in this intervention was designed to promote parent–child relations, because research has shown that homework may spark conversations between parents or other family members and children about what has been taught at school. Research has identified the challenges with using homework as a method of involving parents: teachers want parents to support their children’s learning but they think that most parents do not do enough; parents want to be involved, but say they need guidance in how to help at home; and most teachers need new approaches and specific tools to help parents become productively involved at home. Previous research on homework and parent involvement focuses on involvement with respect to school performance rather than health behaviour change.

Parents are role models for children and support the development of their eating and physical activity behaviours. Parental influence is present through childhood, but weakens during adolescence. A systematic review of parental engagement in physical activity interventions (not necessarily school-based interventions) with young people identified five methods of involving parents: (i) face-to-face education or training; (ii) family participation in exercise programmes; (iii) telephone communication; (iv) organized activities; (v) sending education materials home. The review concluded that it was impossible to determine whether parental involvement was effective in terms of further increases in children’s physical activity levels because of marked heterogeneity in methods. A systematic review of obesity prevention interventions found only two family-based interventions, although a family component was an integral part of the school-based interventions. Interventions rarely considered the complexity of parents’ working and living arrangements and the lack of supportive strategies was likely to diminish the potential for change. Studies promoting healthy eating in children have compared interventions with and without parent involvement; interventions which involve parents at home show evidence of increased changes in parental knowledge, efficacy, modelling and having more healthy food at home and of positive changes in children’s intake of fat, fibre and sugar. Collectively these findings indicate a need to identify effective ways to engage parents in school-based physical activity and nutrition interventions.

What this study adds
This exploratory study with parents suggests that the regular school newsletter is a good method of communicating information about the school-based intervention to parents. Homework that was unconventional and included activities such as cooking and physically active games involving both parents and children appears a feasible means of involving parents.

Limitations of this study
There was a low response from parents to take part in the interviews in both phases of the study. Telephone interviews were chosen as a method of collecting qualitative information from parents because a study in England with parents of children aged 10–11 years demonstrated that it is difficult to arrange focus groups at a time during which participants could all attend. In that study the response for telephone interviews with parents was 9%, which is similar to ours. Only mothers participated in the interviews, and this, combined with the small numbers means that the results may not be representative of parental views in general. However, good numbers of children participated in
the focus groups and the use of the smiley faces allowed all the children to give their views on each of the homeworks. This may have been because of timing; it was the end of the school year, a busy period. Teachers from all the parent involvement schools took part in the process evaluation.

After initial interviews with parents, we chose one universal method for involving parents—homeworks and newsletters. Whilst this has the advantage that it potentially has universal reach and is relatively cheap, we acknowledge that parental involvement with the homeworks was varied.

Because of limited funding, we were unable to explore the themes that emerged here with other groups of children, parents and teachers. Nor did we have access to an unlimited resource of participants that would allow continued collection of data until saturation was achieved with emerging themes. Thus, some caution should be applied to our results. That said, there was triangulation between children, parents and teachers on several relevant points. Furthermore, similar themes emerged with each parent interview providing some evidence for saturation. The low response from the parental survey (17%) means that these findings may not be generalizable and that we were unable to explore the differences between groups.

Conclusions

The regular school newsletter appears to be a good method of communicating information about school-based interventions to parents. Homeworks are routinely given to children and provide a means of engaging potentially all parents if parental support is required. Homeworks which are novel, fun, involve activities and social contact are enjoyed by parents and children and may increase awareness of healthy diet and physical activity.

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References


